8 Smart City Dialogue in the Arctic

Opportunities and Challenges

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Introduction

In the past decade, the smart city concept has enjoyed growing popularity with its promise of sustainable development for cities and communities (Mora and Deakin, 2019). Smart cities have even become a part of Sustainable Development Goal (SDG) 11, to "Make cities and human settlements inclusive, safe, resilient, and sustainable" (United Nations, 2017). Broadly defined, the smart city suggests urban technological development with "investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure [that] fuel sustainable economic growth and high quality of life, with wise management of natural resources, through participatory governance" (Caragliu et al., 2011, p. 70). By these means, one of the smart city's key agendas is urban development for local needs via dialogue formation between global-local actors and with citizens' collaboration (Bolívar, 2019; Calzada, 2018; Kitchin et al., 2019; Vanolo, 2016).

Many studies have investigated smart city dialogue formation by holding up individual city cases in different contexts (see Mora and Deakin, 2019, for an overview). Yet, there is still a lack of knowledge about the role of dialogue in the global-local interpretation of smart cities (Burns et al., 2021). Moreover, there is a call to understand the possible tensions between global and local smart city trends through comparative studies and by capturing power geometries in global-local dynamics (Miller et al., 2021).

In response to that call, this chapter investigates the development of smart city initiatives in the Arctic, where the smart city concept is proclaimed to have the unique potential to resolve the region's socioeconomic challenges and secure sustainability (Raspotnik et al., 2020). However, smart city development has emerged only recently in the Arctic, with few empirical cases stressing the importance of smart city dialogue (Dybtsyna and Aleksandrov, 2020; Sköld et al., 2018). At the same time, the Arctic is an example of growing governance complexity, with multiple state and non-state actors operating locally, nationally, and internationally (AMAP, 2017; Smith, 2011). Such complexity, in turn, requires constant dialogue (Wilson Rowe, 2018a).

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Thus, the Arctic represents a critical example of smart city dialogue formation in the context of global-local dynamics and power geometries. While the interest in smart cities and the promise of dialogue are growing in the Arctic, understanding of dialogue formation across actors is mostly missing.

In this regard, this chapter focuses on the state-of-the-art smart city dialogue formation in the Norwegian and Russian Arctic. Both countries are interesting to examine due to their different long-lasting governance traditions (Bourmistrov and Mellemvik, 2002) while placing a similar emphasis on Arctic importance and smart city development in their governance strategies. We mainly reveal and compare how *smart city dialogue unfolds across governance actors in these two countries*. Conceptually, we apply dialogic literature that critically assesses smart city developments in the two countries concerning the so-called Arctic paradox (e.g., Holm, 2020), that is, Arctic development but with the essential decisions taken elsewhere. Empirically, we analyze qualitative data and publications/working papers from three international research projects on smart city development in the Arctic in the period 2018–2021.

Our chapter proceeds as follows. First, we review the smart city literature concerning the Arctic and the dialogue approach. Second, we describe the setting and our methods, before presenting our empirical findings on smart city dialogue development in the Norwegian and Russian Arctic. Finally, we discuss our results and conclude with future implications.

Smart cites in the Arctic: between globalizing and localizing trends

The smart city global agenda has been flourishing in the last decade with two key trends. First, certain scholars currently argue for the smart city globalizing trend (Burns et al., 2021; Miller et al., 2021), that is, developing cities within global flows of capital, people, and information that form one dominant urban view. Globalizing also refers to specific urban projects, governance regimes, and processes in smart city initiatives, as widely adopted in Europe, with six characteristics: smart mobility, smart economy, smart people, smart governance, smart living, and smart environment (Giffinger and Pichler-Milanović, 2007).

This trend has provoked considerable debate on creating a dominant vision of the 'good city' (Burns et al., 2021, Vanolo, 2014) that ignores contextual importance and the diversities of agendas for cities. In this regard, a growing number of studies reveals the consequences and even dangers of ignoring the local context. For example, Grossi and Pianezzi (2017) demonstrate that smart cities can become utopian ideas promoting neoliberal values and distracting from locally driven city development. Similarly, Hollands (2008) highlights the danger of urban development privatization under a smart city agenda. Moreover, many scholars stress the dominance of business elites and their lack of consideration for citizens in urban development (e.g., Karvonen et al., 2018; Kitchin et al., 2019; Marvin et al., 2015).

Altogether, this forms the second—localizing—trend, with increasing emphasis on the varied nature of smart cities and acknowledgment of local context (Burns et al., 2021; Miller et al., 2021). This trend mainstreams alternative forms of smart city development through in-depth case studies with local interpretations of smartness and local knowledge formation, which cast doubts on the globally dominant agenda and vision.

Therefore, smart city development has witnessed two contradictory trends: the popularization of a global vision, and more recently, a preference for local images. Miller et al. (2021) assert that the encounter of global and local creates productive and complementary tensions. In other words, if we want to understand smart city development with global-local distinctions, it is essential to study the relationship between globalizing and localizing trends and how these unfold within the existing power geometries (Burns et al., 2021). This might raise the question of dialogue formation for global-local interpretations of urban development (Bolívar, 2019; Calzada, 2018; Vanolo, 2016). Dialogue is suggested to be crucial to prevent the aforementioned dangers and deliver on the sustainability promises of smart cities (Grossi et al., 2020). Yet, how dialogue unfolds within smart city globalizing and localizing trends in practice remains unclear.

The Arctic is an exciting space in which to examine smart city dialogue formation, as its governance is extremely complex and marked by global versus local aspects of sustainability (AMAP, 2017; Smith, 2011). While the Arctic gains increasing attention as a region rich in natural resources (e.g., fish, oil, and gas), and thus as presenting opportunities to ensure global economic growth and sustainability, it also faces the so-called Arctic paradox, indicating tensions between local and global interests. Locally, Arctic governance increasingly addresses the values of inhabitants and their sustainability (e.g., Russian Strategy of Arctic Development, Norwegian High North Strategy). Globally, increasing attention is paid to the Arctic by central governments and other players outside the Arctic (AMAP, 2017; Bourmistrov et al., 2015). Balancing these global and local interests creates a paradox: while talking about locally driven governance, decisions on the opportunities presented by the Arctic are made without considering those who live there. This results in most of the potential benefits flowing from Arctic regions and to resource exploitation without creating local value (Holm, 2020; Tennberg et al., 2014), thereby calling into question the sustainability of the region. As a response, there is a call for innovative solutions with dialogue across governance levels to ensure local stakeholders' capacity to handle this complexity (AMAP, 2017).

The smart city concept recently became one such solution actively promoted in the Arctic, addressing the situation with proposed technological development for Arctic cities (Dybtsyna and Aleksandrov, 2020; Raspotnik et al., 2020). Specifically, in line with global promises of urban sustainability under SDG 11, the smart city concept in the Arctic suggests using ICT for city infrastructure development, attracting new investments and residents, innovations building, and environmental and local social growth (McMahon and Raspotnik, 2019). Yet

the concept is one developed outside the Arctic and so requires careful consideration of the global pitfalls (Dybtsyna and Aleksandrov, 2020). This corresponds to a situation where decisions are made regardless of the region's complexity or the inclusion of local actors (Bourmistrov and Johansen, 2019).

Thus, while a smart city can potentially facilitate sustainability of the Arctic, it can also become stuck in a similar (smart) Arctic paradox. Some undesirable trends are already perceptible (e.g., AMAP, 2017; BIN, 2019), but have so far been underestimated or ignored in relation to dialogue in the Arctic.

A dialogic approach to smart city development in the Arctic

The dialogic literature on public administration and governance (Brown, 2009; Rajala et al., 2018) is particularly valuable for studying Arctic smart cities' dialogue formation. This literature asserts that dialogue should be supported by divergent Arctic voices (Makki, 2012). In other words, for fruitful smart city dialogue, the borders between global and local visions (Burns et al., 2021) should be blurred in favor of learning from each other (Rajala et al., 2018). In that way, different parties to the dialogue become coauthors of collective actions (Bakhtin, 2010), that is, in this case, smart city initiatives in the Arctic. In that sense, the key idea of dialogue is to resolve contradictions between different worldviews not by denying their differences and upholding one dominant worldview, but by identifying and supporting the commonalities of those views (Rajala et al., 2018).

In the dialogic approach, smart city development should be viewed as a complex, political process, acknowledging the pluralism, difference, ideological conflicts, and power dynamics on the global-local agenda (Brown, 2009). In that sense, a smart city reflects the 'voices' of divergent governance actors within the Arctic and outside it, that is, unpacking smart city globalizing and localizing relationships. Analytically, it is key to distinguishing between monologue and dialogue formation. A dialogue affords divergent voices equal attention and promotes consensus-building within the smart city agenda, considering local, national, and international visions as equal. A monologue, in turn, suggests that smart city development will be framed by the dominance of one voice across governance actors. Therefore, in relation to the Arctic's smart city globalizing and localizing interrelation, the dialogic approach argues for the inevitability of power and the divergent interests of different governance actors (Brown, 2009). In that sense, it can help to track the tensions and conflicting nature of smart city formation within global and local agendas in the Arctic, emphasizing power and imbalance across actors, which have been undermined in the earlier smart city literature.

Based on prior theorization of a dialogue's underlying principles and assumptions, we propose five aspects of smart city dialogue formation to be considered in the Arctic (see Table 8.1), along with critical elements to consider when urging dialogue or monologue formation. These aspects will frame our interpretation of the data and presentation of the research findings.

Table 8.1 Application of dialogic literature to analyze smart city development in the Arctic (based on Bakhtin, 2010; Brown, 2009; Makki, 2012; Rajala et al., 2018).

Five Key Aspects	*Application to Smart Cities in the Arctic*	*Criticality*
Topic(s) and goal(s)	What are the common goals, elements, or framework of smart city initiatives?	Domination of a particular topic or goal
Parties/actors (local, regional, national, international)	Who are the actors involved in smart city initiatives?	Excluded or marginalized actors
Voices involved, the weight of each, and their balance	Who has the power and expert knowledge to decide on smart city developments, and how are the power and knowledge exercised?	Power is held by one voice. Expert knowledge comes from one voice; these are not shared
Format/rules of interaction	What financial aspects, agreements, network collaborations, and citizen involvement initiatives are there?	Symbolic dialogue that is highly controlled with predetermined answers
Outcome(s)	What is the status of smart city development so far?	Dominant voice versus multiplicity of voices

Empirical setting and method

This chapter studies the development of smart city initiatives with regard to its forefront dialogic promises in Russian and Norwegian Arctics. Despite certain similarities between the two cases, there are also definite differences. In this respect, comparison of the two contexts provides a fruitful opportunity to shed light on the issue.

We find several intersections of these two contexts in relation to various 'histories', that is, smart history, democratic history, and an Arctic history. On the one hand, smart history is relatively immature in both countries. The smart city phenomenon in Norway is under development (Rambøll Management Consulting, 2018) and is on the agendas of one-third of municipalities (Dybtsyna and Aleksandrov, 2020). Similarly, the official 'smartification' of Russia only started in 2017, stressing local city aspects for consideration in the Arctic areas (Khodachek et al., 2020). Beyond this, the democratic histories of the two countries lack commonalities. Norway's history of representative democracy, local autonomy, and self-government has flourished for more than 150 years. In contrast, representative democracy in Russia was only introduced in the 1990s after the collapse of a long-lasting totalitarian regime; accordingly, democracy is still a relatively new phenomenon. In this way, the democratic structures in the two

counties differ significantly, which, in turn, gives rise to differences in the plots of their smart city stories. Finally, both countries have put strategic priority on the 'sustainable Artic' (e.g., Norwegian High North White Paper, 2020, and Russian Arctic Strategy, 2030), viewing the Arctic as 'the territory of the dialogue' (www.forumarctica.ru) and sustaining a peaceful Russian-Norwegian Arctic history (Bourmistrov et al., 2015).

To study how a smart city dialogue unfolds in the Russian and Norwegian contexts, we use data from three research projects focusing on smart city development in the Arctic with both countries as the main partners. In particular, the research project 'SMARTNORTH: Sustainable development and MAnagement by paRTicipatory governance practices in the High NORTH' (2017–2020) reveals the scope of developing smart city initiatives, their driving forces, and potential effects on sustainable development in Arctic communities. The second project, University of the Arctic's (UArctic's) 'Smart Societies in the High North Thematic Network' (2018–ongoing), has identified different approaches to the smart concept across the Arctic and proposes its potential amplification through intensive education and research cooperation between partners. Finally, the research project 'EduSmart: Education and Knowledge Development for Smart City Governance and Performance Management in the High North' (2021–ongoing) intends to enhance international education and research in the Arctic by incorporating knowledge on smart city governance and performance. Altogether, these projects cover smart city development in the northern regions of Norway (Nordland, Troms, and Finnmark) and Russia (the north coast of northwest, Ural, Siberian, and far eastern regions).

For our research, we conducted documentary and media analysis of the smart city rhetoric and citizens' involvement mechanisms in the period 2016–2019. The data studied included official documents (e.g., policy documents, decrees, and city strategies), newspaper articles, and national and city-wide websites. The documentary data of the project were moreover supported by collective and individual reflections on project-related seminars, workshops, conferences, and meetings with practitioners in Norway and Russia. Finally, we used data retrieved from interventionist research when the authors participated in ongoing smart city development projects in Norway and Russia. Such an approach resulted in interviews with public officials, interactive case-study work with students and practitioners, and observations of internal administration and public meetings regarding smart city-related projects.

Empirical findings

Smart city monologue in the Russian Arctic: top-down smartification and national smart city standard

Initially, before 2018, the smart city agenda in Russia developed chaotically, sustaining openness in interpretations and stimulating creativity at the local level, including Arctic cities (Aleksandrov et al., 2021). There is evidence that

international smart city frameworks and ideas influenced Russian smart city development (UN Habitat and similarities to European smart city framework). Nineteen Arctic cities were involved in smart city initiatives in 2018, where neither state and cities nor companies or academia dominated the discourse. The key idea for smart city development was 'sharing knowledge and experience of city development' and creating a 'common sustainable future' for Arctic cities via dialogue between international, national, regional, and local parties with different ideas and visions as well as considering companies' and citizens' perspectives (Khodachek et al., 2022). Local Arctic actors represented by city administrations and universities emphasized the importance of democratic and human-centric initiatives in smart city development, enthusiasm, and creativity (Trunova et al., 2022).

However, documentary analysis demonstrates that after 2018, Russia's federal authorities—namely the Ministry of Construction and Development (hereinafter Ministry)—intervened and monopolized the discourse, sustaining top-down smart city bureaucratization all over the country, including Arctic cities. In this vein, in 2018 the Ministry issued a smart city roadmap stipulating five key principles for smart cities: the human dimension, urban infrastructure, utility management and urban planning, comfortable and safe urban environment, and economic efficiency. These smart city ideas were further included in the so-called 'Smart City Standard' in 2019. The Standard covered activities in eight areas: urban management, 'smart' utilities, innovations for the urban environment, 'smart' urban transport, intelligent public and environmental safety systems, communications network infrastructure, tourism, and services. By these means, Russia framed its national way of defining smart city objectives and elements (Khodachek et al., 2022), with implications for Arctic cities.

Concerning the different parties in the smart city dialogue on the Russian Arctic, academic actors and city management practitioners from before 2018 were joined by federal authorities and corporations. More specifically, in 2018, the federal authorities became active and dominant participants in the fragmented smart city agenda by launching mass smart city initiatives through the Roadmap and the Standard. Expecting federal funding for smart city initiatives and public-private partnership funding schemes, state-owned enterprises and large national companies then began developing digital solutions to city-specific problems (smart bus stops, smart lightning, e-government services, citizen engagement apps).

Interestingly, besides partnerships with state corporations, the Ministry reflected the 'voices of regions and local governments' as 'being heard in defining smartness' (www.russiasmartcity.ru). Nevertheless, as Khodachek et al. (2022) demonstrate, despite claiming 'a comprehensive and systematic approach to "smart" cities' development' (Minstroi Decree #38 2018, 1), the focus was on framing the importance of national priorities in smart city development, and therefore on downsizing the consideration and voices of citizens in the Arctic. In particular, when creating the Standard, the federal authorities set goals, performance indicators, funding, and an implementation plan for the whole country, including Arctic cities. Moreover, the Standard became a tool to convey the Ministry's vision to

the local level since municipalities, including those in the Arctic, are not entirely part of the state and possess a certain autonomy from central authorities.

When it comes to the format and rules of the smart city dialogue, in parallel with consolidating power and interpretations into one national voice, the Ministry introduced the 'pilot smart city' initiative: selected municipalities were added to a secret list and granted access to direct communication with the Ministry. By 2019, 79 pilot cities in 47 regions had voluntarily joined the smart city project, including several Arctic cities (www.russiasmartcity.ru). The pilot cities committed to exceeding the basic requirements of Standard and to implementing additional elements. In turn, the Ministry promised methodological and financial support for the pilots. However, during the smart cities' implementation, the pilots faced issues as the Ministry insisted on 'detailed descriptions of activities', 'complete programs', and regular reports on the progress toward and changes in development plans (Project Office Report, 2019). Moreover, while the Standard implied there would be plenty of initiatives, there was no specific federal budget for their implementation at the local level. Instead, some activities could be financed through other Ministry subsidies (e.g., within the Comfort Urban Environment Programme). Curiously enough, these financial support mechanisms had been unexpectedly transformed into a control mechanism (Khodachek et al., 2022). Thus, even within the restricted pilot cities group, the dialogue was replaced by bureaucratic reporting and coercive financial levers, turning the smart city projects from bottom-up initiatives to top-down compliance for the Arctic cities.

Reflecting on the overall picture of smart city dialogue formation in the Russian Arctic, cities were forced into financial dependency and the smartification lost its inspirational quality with the projects facing issues of survival. Unexpectedly, instead of following local priorities, the municipalities became 'smart no matter what', with projects focusing on smart bus stops but ignoring potholes and setting up ICT solutions without activating them. In addition, citizens' involvement in the smart city agenda in Arctic cities became another mechanism of control through which upper-level authorities could monitor local authorities' performance (Khodachek et al., 2022). Hence, the national voice limited the creativity and autonomy of local actors in their interpretations of smart cities in the Arctic, forcing a technocratic vision to dominate instead.

Smart city dialogue in the Norwegian Arctic: between the European framework and local smart city visions

In 2019, nine cities and municipalities were engaged in smart city initiatives in the Norwegian Arctic, recognizing that the Arctic environment brings both opportunities and challenges for smart development (Dybtsyna and Aleksandrov, 2020). Dybtsyna and Aleksandrov (2020) demonstrate that diverse frameworks and agendas were set locally, including some to enhance city attractiveness to investments, new residents, and companies through smart city development, although the development in the Norwegian Arctic was dominated by technological/*information technology* (IT) development. For example, some cities claimed to

develop Smart Arctic City as a platform to test Arctic-related technological solutions (e.g., Longyearbyen) and support smart technologies, buildings, and mobility (e.g., Alta, Harstad, Narvik). At the same time, some cities stressed that 'smart people' were an essential part of smart city development (Dybtsyna and Aleksandrov, 2020) and offered opportunities to discuss the smart city initiatives via dialogue (e.g., Bodø and Tromsø). Thus, it is evident that national and European frameworks guided many Norwegian smart city ideas, such as those concerning smart mobility, smart people, and more (Caragliu et al., 2011). The European discourse is also noticeable in frameworks such as the Design and Architecture Norway (DOGA) roadmap[1] and at smart city national conferences (e.g., https://nordicedge.org/).

The smart city dialogue in the Norwegian Arctic involved multiple local actors, such as city administrative bodies, businesses, and universities (e.g., Longyearbyen, Mo i Rana, and Narvik). In other cases (e.g., Vardø, Alta, Harstad, and Bodø), city and municipal actors actively sought to join professional networks for smart city development, nationally and internationally (e.g., the Nordic Network of Sustainable and Smart Cities). In many cases in the Norwegian Arctic, smart city development presented an opportunity to develop cities through local public-private partnerships and by stressing citizen involvement, with citizens as key actors (e.g., Bodø, Tromsø). In addition, national authority in the form of the Ministry of Local Government and Modernisation (MLGM) became central to smart city development across Norway, setting the smart city agenda via the ministerial report 'Smart cities and municipalities in Norway: mapping' (MLGM, 2019). Finally, the EU Commission's involvement is also evident in the development of Norwegian Arctic cities via research and innovation programs with related funding mechanisms such as Horizon 2020.

Considering different actors' power and the values of different voices in the Norwegian Arctic dialogue, it can be argued that despite strong local voice formations, there has still been a limited balance between local, national, and European actors' voices. At the national level, smart city development is supported by central actors via large projects and national funding. These raise the critical aspect of the national authority's dominance in setting the urban agenda with its own vision (e.g., the Bodø case of a smart city and airport development[2]). In addition to such a power aspect, the Norwegian MLGM also actively promotes local smart city initiatives' linkages to the SDGs (MLGM, 2019). For cities and municipalities, this raises a question about the immunity of smart city initiatives to influence from international (e.g., EU Commission) and national actors, which may compromise local legitimacy. Moreover, EU funding (e.g., Horizon 2020) often limits the chances for local Arctic voices to be heard under the EU agenda as strict reporting and funding routines may distract from the fulfillment of local needs.

Similar critical aspects apply to the format of dialogue across actors in the Norwegian Arctic. Particularly on the local level, most city initiatives recognize the importance of the involvement of citizens and non-governmental organizations (NGOs), but many lack efficient instruments to facilitate such engagement. The most common opportunities for participation are public meetings, breakfast

seminars, surveys, and so on. These are mainly upheld as citizen participation is enshrined in the Norwegian Planning and Building Act that concerns urban planning and development (Dybtsyna and Aleksandrov, 2020). More advanced mechanisms of engagement also come into play when cities (e.g., Bodø) attempt to involve local actors in smart city dialogue formation between citizens, the city administration, businesses, academia, and NGOs, for example, via a so-called 'City lab'. Nevertheless, such mechanisms are still under development, and few cities have efficient instruments at their disposal with which to facilitate weighted and balanced decision-making for smart city developments (Dybtsyna and Aleksandrov, 2020) where expert knowledge dominates and is rightfully assigned most power at the local level. Thus, in many cases, instead of this, the smart city dialogue is organized by business development associations, which arrange for external experts to share their knowledge, reflecting the general agenda of the EU Program on Research and Innovation.

Therefore, reflecting on the status of smart initiatives' dialogue in the Norwegian Arctic, it can be seen that diverse actors represent many voices on local, national, and international levels. Yet those actors make a limited contribution to the dialogue since national and international agendas prevail. In these conditions, there is only partial consideration of voices from Arctic cities and the locals needs that they attempt to communicate. Hence, no matter how the smart initiatives are considered locally, there are still few dialogue forms to facilitate citizens' involvement in smart city development decisions in the Norwegian Arctic.

Discussion and conclusion

This chapter reported on smart city development in two Arctic countries as a follow-up to global trends (Mora and Deakin, 2019). Despite smart city promises of sustainability, certain warning signals regarding the lack of necessary dialogue formation to succeed with smart city ideas continue to be received (Bolívar, 2019; Kitchin et al., 2019). This chapter studied the issue in the Arctic context, exploring in particular how the smart city dialogue unfolds across governance actors in the Norwegian and Russian Arctic.

Our findings demonstrate that the formation of a smart city dialogue was problematic in the two countries (see Table 8.2 as the summary). Despite common global smart city ideals, the goals for smart city development, processes, and outcomes may differ significantly. In the Russian Arctic, state and corporate actors have overtaken the promise of a 'common sustainable future' and the initially open smart city dialogue in the Russian Arctic. Using their power and ability to dictate the rules of the game, they have silenced other (local) voices, transforming a symbolic smart city dialogue into a monologue of national authorities that fails to acknowledge voices from Arctic cities and the locals' needs communicated by them. Meanwhile, the Norwegian smart city dialogue started with the active involvement of national voices (as in the Russian case) along with European ones. While building on the European smart city framework was probably a significant

initial driver of smart city implementation, those external voices tend to slightly dominate the smart city dialogue in the Norwegian Arctic (even if unintentionally) as a result of providing significant financial support. Hence, as in the case of state-controlled smart city development in the Russian Arctic, the initially more dialogue-inclined Norwegian efforts toward smart city dialogue formation have come to favor top-down development, and global and local Arctic voices are far from balanced (Brown, 2009; Makki, 2012).

Overall, reflecting on the role of dialogue in globalizing and localizing smart cities (Burns et al. 2021), our findings show that while national/international smart city agendas have a broad and overarching focus on sustainability (Miller et al., 2021), local Arctic actors' requirements and expectations of a smart city can be more concrete and complex (Dybtsyna and Aleksandrov, 2020). Ideally, the differences between the two should be reconciled through dialogue, where local voices are heard and considered by national and/or international smart city actors.

Table 8.2 Smart city dialogues in the Russian and Norwegian Arctic

Aspects of Smart City Dialogue	*Russian Arctic*	*Norwegian Arctic*
Topic(s) and goal(s)	From open promises of a 'common sustainable future' toward a national framework and smart city standard	Promises to enhance cities' attractiveness to investment, new residents, and companies but aligned with the European smart city framework
Actors involved	From domination by local actors (academia and city administrations) to domination by national actors and state corporations	Local actors (city administrations, universities, citizens, companies), regional authorities, national authorities, and the EU Commission
Power and balance of voices	National players (e.g., Ministry of Construction) dominate power and expert knowledge, leaving little space for other voices	Arguable balance between local, national, and EU voices with slight dominance of national and international agendas
Dialogue format and rules	Symbolic dialogue with much control and predetermined answers via pilot initiatives; funding restrictions formed top-down compliance	Limited dialogue with citizens; consistent prioritization of large national projects and EU funding
Outcome(s)	Monologue of national authorities, failing to acknowledge local voices and needs in Arctic cities	Limited dialogue, with national authorities and international parties setting the agenda and only partially considering voices from Arctic cities

However, a situation where smart cities faithfully serve local Arctic interests seems to be somewhat utopian (Grossi and Pianezzi, 2017). Despite the promise of dialogue for smart city development (Bolívar, 2019; Calzada, 2018; Vanolo, 2016), the Arctic cases illustrate the risk of a monologue taking over where the localizing trend is marginalized (Burns et al., 2021; Miller et al., 2021). In that sense, smart city development aligns with the Arctic paradox (Bourmistrov and Johansen, 2019; Holm, 2020) since, instead of preparing the ground for a fruitful dialogue seeking the best outcomes for local interests, monologues may end up led by actors from outside the region with different priorities in mind.

In such conditions, dominant global and/or national voices will hardly weaken or make room for local voices, even under sustainability pressures. To address this issue, particular attention in both countries should be directed toward reviewing existing governance traditions (Russian centralization approach vs. Norwegian bottom-up and network approach) and national/international players (Russian state corporations and smart city national vision vs. Norwegian public-private partnerships and EU smart city framing). Moreover, to restore the balance between globalizing and localizing trends (Burns et al., 2021; Miller et al., 2021), local actors should make their voices heard. In this regard, while the opportunities for bottom-up initiatives may be limited, collective Arctic voices can still increase their weighting via horizontal dialogue across the Arctic.

In particular, horizontal dialogue suggests that local actors may express themselves through various formal and informal organizations. For example, centers of competence[3] in Russia demonstrate that the smart cities' dialogue-friendly dimension may not be lost entirely, even under a top-down smart city monologue (Khodachek et al., 2022). In line with this, establishing a Nordic dialogue arena (e.g., via the Nordic Network of Sustainable and Smart Cities) could be a step toward strengthening local actors' voices and power across the Arctic. Moreover, opportunity for horizontal dialogue lies in international research and education cooperation projects and networks, with the capacity to integrate different voices of local Arctic actors, including academics, practitioners, and policymakers (e.g., UArctic Thematic Network on Smart Societies in the High North). Learning from each other's experiences through dialogue gives hope for the amplification of the Arctic smart city agenda. If the local voice gradually becomes stronger at national and global levels, shared understanding of the specific needs of Arctic citizens may be achieved via a true dialogue.

Implications for theory, practice, and the future of the Arctic

This chapter presented several important insights. Regarding its theoretical implications, this chapter contributes to knowledge formation on the role of dialogue in the global-local interpretation of smart cities (Burns et al., 2021; Miller et al., 2021). In particular, based on the example of smart city developments in the Arctic, we have shown that dialogue formation between global and local agendas is not a panacea for the smart city's bright future (Bolívar, 2019; Calzada, 2018; Vanolo, 2016). Instead, it is a matter of careful concern regarding power

geometries and the balance of voices, where all sides should be heard (Brown, 2009). This is not always the case, as the Arctic smart city development illustrates. This has broader critical implications for understanding smart cities as the best solution for a sustainable urban future worldwide (Mora and Deakin, 2019) and in the Arctic (AMAP, 2017; Holm, 2020; Smith, 2011). Regarding the latter, this chapter has asserted that Arctic sustainable development lies in the careful interpretation of the smart city concept through horizontal dialogue formation across Arctic states. If such horizontal dialogue is lacking, smart cities risk diminishing sustainable development instead of supporting it (Tennberg et al., 2014).

When it comes to implications for practitioners and policymakers, we encourage these actors to be more critical toward challenges connected to smart city dialogue formation between global and local actors. As our two Arctic cases demonstrate, without the proper involvement of divergent actors and a critical attitude toward initial smart city promises and framing at different levels, smart city development can fall under the control of a monologue, even despite the rhetoric of a better urban future. When it comes to local actors, this chapter has asserted that even with a smart city monologue, there is hope for local players' cooperation and learning across borders via horizontal dialogue formation.

When it comes to implications for the future of Arctic development and sustainability, this chapter has stressed several points. First, in the resource-rich and climate-fragile Arctic region, the smart city presents an ambitious solution to tackle the sustainability agenda (Haarstad and Wathne, 2018) by creating safe, resilient, and sustainable cities (SDG 11). In particular, looking ahead, it is certain that global and/or national players will continue to dominate visions of what is smart for the Artic cities and communities. Second, despite such a negative trend, we are certain that Russian-Norwegian cooperation in education and research will strengthen the local capacity to embrace smart development and new urban technologies in general by addressing global and local concerns in a horizontal way between Arctic states (Wilson Rowe, 2018b). Hence, we predict that the smart city agenda will partially facilitate urban sustainability in the Arctic but will not reverse major contextual challenges like depopulation and the Arctic paradox.

December 2021

Ex-post reflections

If we rephrase well-known wisdom, a *dialogue* appears to be the first casualty in the overarching deterioration of the relationships between Russia and the West that we currently observe. That said, Russian-Norwegian cooperation in the Arctic has brought much value (with the potential to bring even more) so that there is a strong hope that both sides will make significant efforts to secure it. Russia and Norway will keep on sharing common challenges and opportunities in the Arctic and the High North. Thus, we hope that the dialogue will also survive. Nevertheless, this dialogue is unlikely to flourish at national or supranational levels after February 24, 2022. Rather, we foresee it to rest on peer-to-peer

communications between entrepreneurs, tourists, and individual researchers when institutional educational and research cooperation will be inhibited in the immediate future. Nevertheless, the smartification of northern cities will continue in both countries, even though in different ways for now.

April 25, 2022

Notes

1 https://doga.no/globalassets/pdf/smartby-veikart-19x23cm-eng-v1_delt.pdf
2 https://www.nrk.no/nordland/skjalg-fjellheim-i-nordlys-er-kritisk-til-at-bodo-far-milliarder-til-ny-flyplass-og-ny-by-1.15402059
3 Special purpose regional government-funded NGOs responsible for citizens' engagement in comfort urban environment projects.

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